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NOTE ON A LIVER ABSCESS OF AMOEBIC
ORIGIN IN A MONKEY.

Plate VIII.

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SINCE November 1906 I have had in the animal house attached to the Bacteriological Laboratory, a rather large female *Macacus pileatus* (No. 47). This monkey, which had been bought from a villager, had never been used for any experiment: it was kept in the same cage with a monkey inoculated with yaws. In October 1907 the monkey, which so far had been in good health, began to lose appetite, and looked somewhat ill; nevertheless the animal continued to jump about in the cage and play with its companion till a short time before death, on 5. xi. 07. The monkey never had any diarrhoea, and I thought it might have died from a peculiar form of malaria, extremely common in Ceylon monkeys.

Autopsy: made immediately after death: lungs and heart normal; heart blood and venous blood did not show the presence of Plasmodia or any other blood parasites; spleen not enlarged, contained no pigment and no haematozoa; intestine to all appearances normal; the mucosa did not show any ulceration nor scars due to earlier ulcerations; contents of colon and rectum semisolid, no blood or mucus; liver somewhat enlarged, a yellowish tumour on the upper surface—which I at first took for a cyst. On cutting, it became clear that it was an abscess the size of a very small nut; the pus was yellowish with a little blood and resembled the pus found in human liver abscesses.

On microscopical examination the pus was found to contain leucocytes, a few red corpuscles, and much detritus. What struck me was the presence of a few slowly moving amoebae. The amoebae were more numerous in scrapings from the walls of the abscess. The amoebae were not present in the intestinal contents which appeared to

be quite normal. I may say at once that (microscopically and culturally) the pus of the abscess, the spleen juice, and the blood from the heart, did not show the presence of any bacteria.

Description of the Amoeba. In fresh preparations from the pus of the abscess, the organisms, which were all of large dimensions, appeared moving slowly with the well-known amoeboid movements. The pseudopodia were short, blunt, rather slowly emitted and retracted; the distinction between endosarc and ectosarc was apparently not very marked. The whole body of the parasites appeared vacuolated; but no pulsating vacuoles were present. No nucleus could be distinguished. Some of the amoebae contained red blood corpuscles.

Stained preparations. I stained several films from the pus of the abscess by means of the Romanovsky-Leishman method. The amoebae stain bluish, are oval or rounded, and measure 40 to 70 μ . They occasionally contain red blood corpuscles which appear pinkish or yellowish when stained. In some of the amoebae the nucleus cannot be made out; in others it is small (3 to 6 μ), contains some chromatin, is rounded, and occupies an eccentric position. I have not come across encysted or developmental forms.

It is probable, from what has been said regarding the appearances presented by the intestines at autopsy, that this monkey had never had dysentery.

I have seen several cases of spontaneous dysentery among monkeys where the intestinal contents contained amoebae which I believe to be identical with the species found in this liver abscess.

This is the first time, however, that I have come across a liver abscess in a monkey. It is to be noted that amoebae may be frequently found in the faeces of apparently quite healthy monkeys, a fact already noted by several observers; these amoebae, however, are morphologically different as they generally present a rather large, distinct nucleus, and are apparently non-pathogenic.

In conclusion, it seems to me that the abscess of the liver found in the monkey was due to the amoebae I have briefly described, as neither the pus of the abscess, nor the spleen juice, nor the blood of the heart, was found to contain any bacteria; either microscopically or culturally.

For this amoeba I propose the name *Entamoeba nuttalli*, after Professor George H. F. Nuttall.